

Fig. 1.

200

Node Name	Overall Rank	Performance		Fault		Capacity Planning		Configuration		Total NREPs	Traffic Weighted Rank
		NREPs	Rank	NREPs	Rank	NREPs	Rank	NREPs	Rank		

Fig. 2A

Fault Management	
System	
Media	
Protocol	
Total NREPs	

Performance Management	
System	
Media	
Protocol	
Total NREPs	

Capacity Planning Management	
System	
Media	
Protocol	
Total NREPs	

Configuration Management	
System	
Media	
Protocol	
Total NREPs	

Fig. 2B

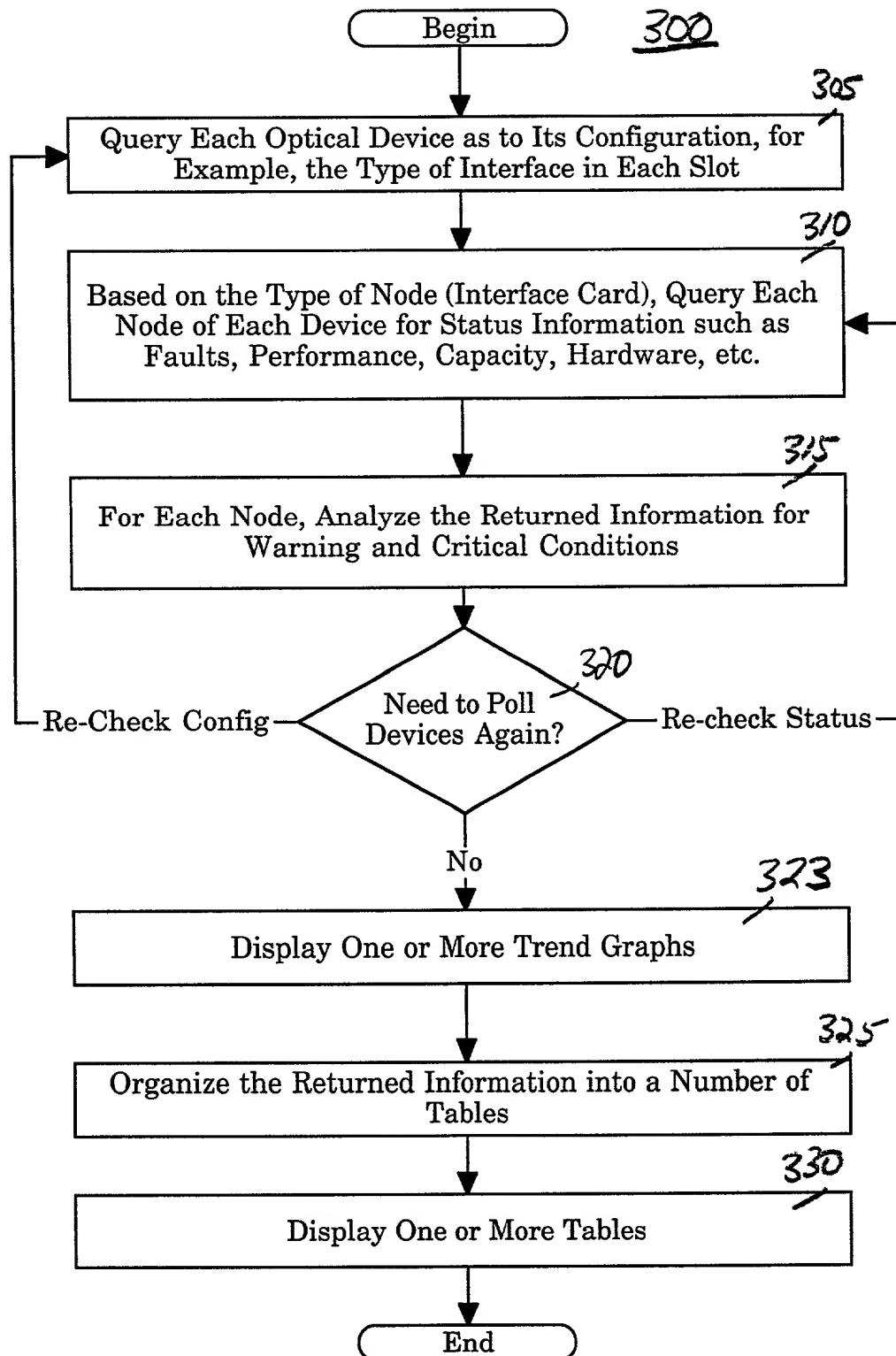


FIG. 3

Command	Function
show srp	This command displays the MAC Addresses, Side A and Side B Node Address, IPS State, Node IPS State IPS Self Detected Requests, IPS Remote Requests, IPS Messages Received, IPS messages transmitted, Topology Map and Nodes on the Ring
show controller srp	This command displays the Side A Active Defects, Side A Active Alarms, Side A Framing, Side A Clock Source, Side B Active Defects, Side B Active Alarms, Side B Framing and Side B Clock Source
show interface srp	This command displays the Status, Line Protocol, Encapsulation, Input Drops, Output Drops, Input Errors, Output Errors, No Buffer, Broadcasts, Total Resets, Load Percentage and Rely Percentage
show interface pos	This command displays the Status, Line Protocol, Encapsulation, Input Drops, Output Drops, Input Errors, Output Errors, No buffer, Broadcasts, Total Resets, Load Percentage and Rely Percentage
show controller pos	This command displays the Active Defects, Active Alarms, Framing, Remote APS Status, Reflected Local APS Status, Remote Hostname, Remote Interface and Remote IP Address
show controller regen	This command displays the status, Error Count, Active Defects and Active Alarms
show gsr	This command displays the Slot Number, Card Type, Port Speed and State
show diag	This command displays the Node Name, Slot Number, Card Type, PCA Hardware Version, PCA Serial Number, MBUS Hardware Version, MBUS Serial Number, MBUS Software Version, ROM Monitor Version, Fabric Download Version, DRAM Size, Frfab SDRAM, Tofab SDRAM, Board State and Crashes.

FIG. 4

500

500

Node Name	Slot Number	Card Type	PCA HW Version	PCA Serial Number	MBUS HW Version	MBUS Serial Number	MBUS Agent Version	ROM Monitor Version	Fabric Download Version	DRAM Size in Bytes	FI-Fab SDRAM Size in Bytes	TO-Fab SDRAM Size in Bytes	Board State	Crashes Since Restart
GSP2	Slot 0	4 Port POS	1.1	CAB0203 01	1.1	CAB0144 0005	1.40	10.40	13.05	26843545 61	67708864	67708864	Enabled	0
													Critical	Critical

FIG. 5B

500

Node Name	Card Type	Slot Number	Port Speed	State
	4 Port Packet over Sonet	1	OC-3c/STM-1	Line Card Enabled
	1 Port POS	2	OC-12c/STM	Line Card Enabled
				Critical

FIG. 5A

610

Active Interface	Node IPS State	MAC Address Side A	MAC Address Side B	IPS State Side A	IPS State Side B	IPS Self Detected Requests Side A	IPS Self Detected Requests Side B	IPS Remote Requests Side A	IPS Remote Requests Side B
	Idle	0000.b1bf.0001	0000.b1bf.0001	Not Wrapped	Not Wrapped	Idle	Idle	Idle	Idle
	Critical	Warning	Warning	Critical	Critical	Warning	Warning	Warning	Warning

FIG. 6A

620

Active Interface	Active Defects Side A	Active Defects Side B	Active Alarms Side A	Active Alarms Side B
	0	0	0	0
	Critical	Critical	Critical	Critical

FIG. 6B

630

Active Interface	Active Defects	Active Alarm	Remote APS Status	Reflected APS Status
POS 0/0	none	none	none	none
	Critical	Critical	Warning	Warning

FIG. 6C

640

Active Interface	State	Error Count	Active Defects	Active Alarms
	Up	None	None	None
	Critical	Warning	Critical	Critical

FIG. 6D

650

Active Interface	In Q Drops	Out Q Drops	In Errors	Out Errors	No Buffer	Broadcasts	Total Resets
	0.00	0.00	0.07	0.00	1	0	13
	Critical	Critical	Warning	Warning	Warning		Critical

FIG. 6E

700

Net Rule	Heading	Description
	Active Interface	Active Interface
If the value $\neq$ IDLE	Node IPS State	Displays the current IPS state of the node. Should be IDLE. Possible fault states are WRAPPED and PASSTHRU. Values $\neq$ IDLE are bolded red
No Mac Addresses for Side A or Side B	MAC Address Side A and B	IPS - intelligent protection system identifies the status of an SRP interface on the DPT ring. Side A is the Outer Ring RX neighbor Side B is the Inner Ring RX neighbor Side A and Side B with no Mac addresses present are highlighted yellow
If Side A or Side B wrapped	IPS State Side A and B	Indicates a wrap condition exists on Side A or Side B of the DPT ring Wrapped on Side A and Side B will be bolded red
Values $\neq$ IDLE	IPS Self Detected Requests Side A and Side B	Locally generated requests other than IDLE could be LOCKOUT (LO), FORCED SWITCH (FS), SIGNAL FAIL (SF), SIGNAL DEGRADE (SD), and MANUAL SWITCH (MS). WAIT TO RESTORE (WTR). Values $\neq$ IDLE are highlighted yellow
Values $\neq$ IDLE	IPS Remote Requests Side A and B	Remotely generated requests other than IDLE could be LOCKOUT (LO), FORCED SWITCH (FS), SIGNALFAIL (SF), SIGNAL DEGRADE (SD), MANUAL SWITCH (MS). WAIT TO RESTORE (WTR) Values $\neq$ IDLE are highlighted yellow
If the value $\neq$ None	Active Defects Side A	Side A: Displays defects associated with the Side A ring. value $\neq$ None will be bolded red
If the value $\neq$ None	Active Defects Side B	Side B: Displays defects associated with the Side B ring value $\neq$ None will be bolded red
If the value $\neq$ None	Active Alarms Side A	Side A: Displays the alarm status associated with the Side A ring. value $\neq$ None will be bolded red
If the value $\neq$ None	Active Alarms Side B	Side B: Displays the alarm status associated with the Side B ring. value $\neq$ None will be bolded red
If the value $\neq$ None	Active Defects	Indicates which types of errors have active defects Value $\neq$ None will be bolded red
If the value $\neq$ None	Active Alarms	Indicates which type of alarms are active value $\neq$ None will be bolded red
Field $\neq$ NONE	Remote APS Status	Displays remote APS system status. If this field $\neq$ none are highlighted yellow
Field $\neq$ NONE	Reflected Local APS Status	Displays remote APS system status. If this field $\neq$ none highlighted yellow
If the value $\neq$ UP	State	Displays the operational state of the line card value $\neq$ UP will be bolded red
Field $> 0$	Error Count	Indicates the total error count on the regenerator line card If value is greater than zero for any field highlighted yellow
It is suggested that this ratio be below $\frac{1}{2}$ of 1% of all input frames. Values greater than this range are bolded red	In Q Drops	Drops % for Input packets shows the percentage of frames dropped on input, relative to the total number of frames received on that interface. It is suggested that this ratio be below $\frac{1}{2}$ of 1% of all input frames.
It is suggested that this ratio be below $\frac{1}{2}$ of 1% of all input frames. Values greater than this range are bolded red	Out Q Drops	Drops % for Output packets refers to the percentage of frames dropped on output, relative to the total number of frames transmitted on that interface. It is suggested that this ratio be below $\frac{1}{2}$ of 1% of all input frames
Input errors $\geq 1\%$	Input Errors	Total Error % for Input packets lists the total number of input errors as a ratio to total packets received on this interface. A common example of an input error is a CRC. Input errors $\geq 1\%$ are highlighted yellow
Output errors $\geq 1\%$	Out Errors	Total Error % for Output packets lists the total number of output errors as a ratio to total packets transmitted on this interface. Output errors in many cases are indicative of hardware failures. Out errors $\geq 1\%$ are highlighted yellow
Values $> 0$	No Buff	No Buff refers to the total number of no buffer conditions on this interface Values $> 0$ are highlighted yellow
	Broadcast	The Bcast % column shows the percentage of broadcast frames to total frames input for this interface Total Bcast-% refers to the percentage of broadcast frames to total frames
Values $> 0$	Total Resets	Total Resets refers to the total number of interface resets on this router between iterations one and two Values $> 0$ are highlighted yellow
Interfaces with a Load Percentage $\geq 50\%$	Load %	Load percentage indicates the value of the activity on a particular interface. Any interface with a Load Percentage $\geq 50\%$ is highlighted yellow
Interfaces reliability $< 99.9\%$	Rely%	Rely percentage indicates the availability of a particular interface. Any interface $< 99.9\%$ reliability is highlighted yellow

Fig. 7

SRP Configuration Table 800

Active Interface	Nodes On The Ring	Framing		Clock Source	
		Side A	Side B	Side A	Side B
	3	SONET	SONET	Internal	Internal

Fig. 8A

POS Configuration Table 850

Active Interface	Framing	Remote hostname	Remote Interface	Remote IP Address
	SONET	7576-14	POS4/0/0	10.128.2.1

Fig. 8B

Capacity Planning Table 900

Node Name	Card Type	Optical Card Capacity		
		Total Ports	Ports In Use	Ports Available
GSR2	4 Port POS	4	1	3

Fig. 9

Performance Analysis Table 1000

Active Interface	Load	Relay %
	55%	98%
	Warning	Warning

Fig. 10



[illegible][illegible]

Fig. 11

FIG. 12 is a block diagram of a system 100 in accordance with the present invention. The system 100 includes a processor 101, a display device 105, a data storage device (optional) 104, a RAM volatile 102, a ROM non-volatile 103, a signal input/output communication devices 108, a cursor control 107, and an alpha-numeric input (PAD) 106. The processor 101 is connected to the display device 105, the data storage device 104, the RAM volatile 102, the ROM non-volatile 103, the signal input/output communication devices 108, the cursor control 107, and the alpha-numeric input 106. The display device 105 is connected to the processor 101. The data storage device 104 is connected to the processor 101. The RAM volatile 102 is connected to the processor 101. The ROM non-volatile 103 is connected to the processor 101. The signal input/output communication devices 108 are connected to the processor 101. The cursor control 107 is connected to the processor 101. The alpha-numeric input 106 is connected to the processor 101.

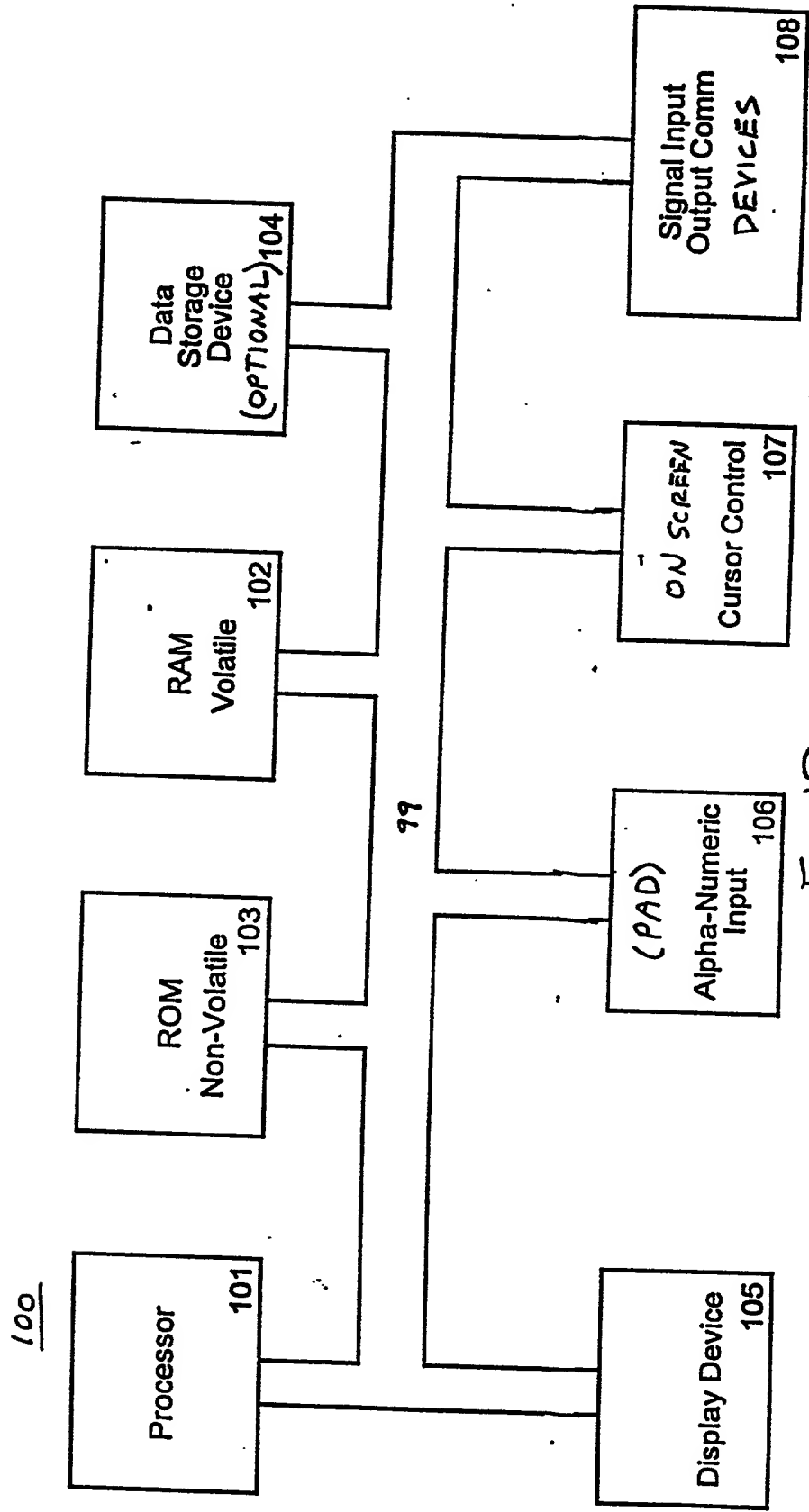


Fig. 12

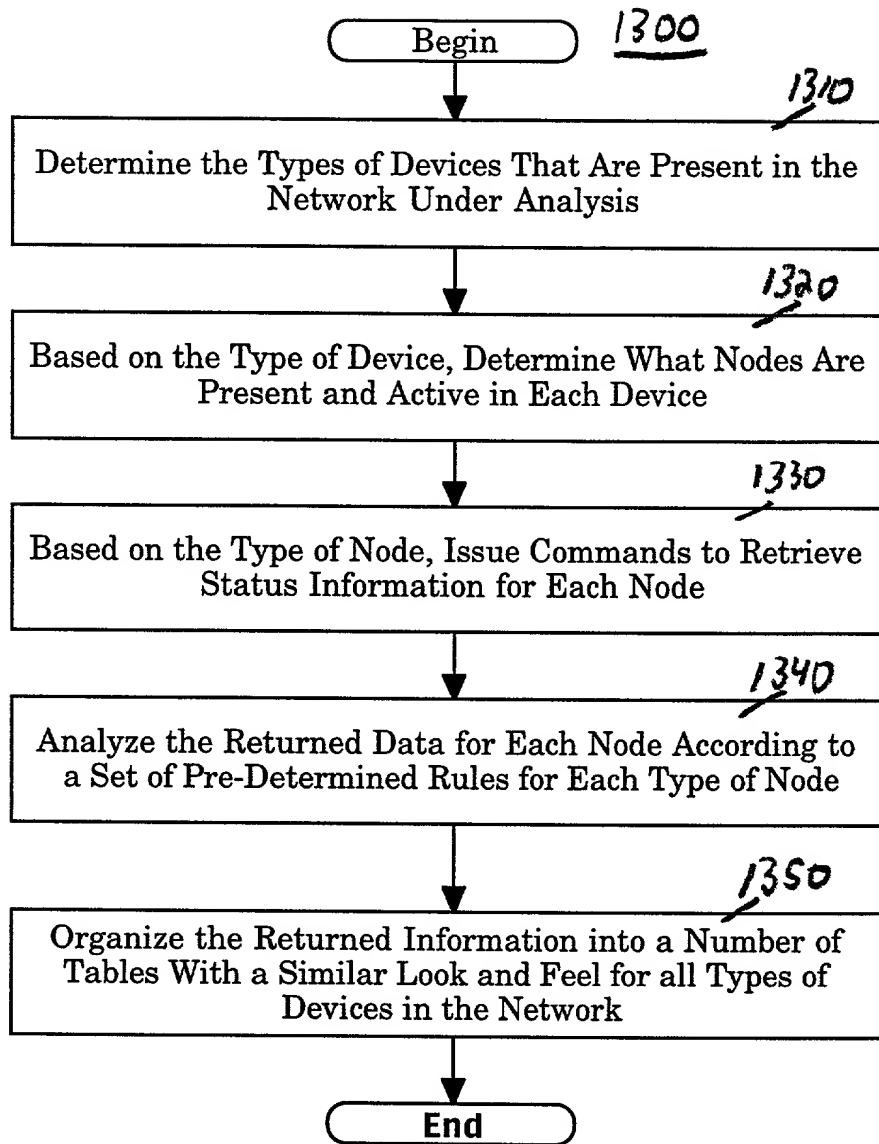


FIG. 13